



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/561,536

12/19/2005

Yukihiro Oishi

052363-0029

9363

20277 7590 12/12/2007  
MCDERMOTT WILL & EMERY LLP  
600 13TH STREET, N.W.  
WASHINGTON, DC 20005-3096

EXAMINER

VELASQUEZ, VANESSA T

ART UNIT

PAPER NUMBER

4116

MAIL DATE

DELIVERY MODE

12/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,536	<b>Applicant(s)</b> OISHI ET AL.	
	<b>Examiner</b> Vanessa T. Velasquez	<b>Art Unit</b> 4116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 6-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☒ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                              | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                     | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)                   | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>Dec. 19, 2005; Nov. 13, 2006; Jan. 9, 2007; March 12, 2007; April 5, 2007</u> . | 6) <input type="checkbox"/> Other: _____                          |



## **DETAILED ACTION**

### ***Election Acknowledged***

Applicant's election of Group I (claims 1-5) in the reply filed on November 14, 2007 is acknowledged. Because applicant did not distinctly and specifically point out supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 6-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

### ***Joint Inventors***

1. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Status of Application***

Claims 1-5 are pending and are presented for examination.

***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on applications filed in Japan on June 19, 2003 (JP 2003-175286); July 15, 2003 (JP 2003-275005); and January 6, 2004 (JP 2004-001071). Receipt is acknowledged of applications JP 2003-175286 and JP 2003-275005 submitted under 35 U.S.C. 119(a)-(d), which have been placed of record in the file.
3. It is noted, however, that applicant has not filed a certified copy of application JP 2004-001071 as required by 35 U.S.C. 119(b).

***Information Disclosure Statement***

4. Five (5) information disclosure statements (IDS) were received on December 19, 2005; November 13, 2006; January 9, 2007; March 12, 2007; and April 5, 2007. The submissions received on December 19, 2005; November 13, 2006; January 9, 2007; and March 12, 2007 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.
5. The information disclosure statement received on April 5, 2007 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the reference by Polmear therein has not been considered. The European Office Action corresponding to European Patent Application

No. 04 745 896.3 has been considered; however, the date appears to have been cited improperly.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Thum & Lorenz (Centre of Darmstadt College of Higher Education, pp. 667-673, Vol. 84, No. 26, English translation).

Regarding claim 1, Thum & Lorenz report their findings on the mechanical properties of four different magnesium-based threaded fasteners. The magnesium-based alloys have tensile strengths ranging from 24 kg/mm<sup>2</sup> to 35 kg/mm<sup>2</sup> (approximately 235 MPa to 343 MPa) (Table 1).

Regarding claims 2 and 3, magnesium-based alloy Magnewin 3512 contains 3% Al, 1% Zn, and 0.2% - 0.5% Mn (Table 1). The Examiner will interpret the chemical compositions in the prior art to be percentages by weight.

Regarding claim 5, the instant claim encompasses zero percent by mass of rare earth element. Because none of the magnesium-based alloys contain a rare earth element, any of the alloys tested by Thum & Lorenz would anticipate this claim. All the

critical elements are well taught by the cited reference and the claims are, therefore, regarded anticipated by the prior art.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thum & Lorenz (Centre of Darmstadt College of Higher Education, pp. 667-673, Vol. 84, No. 26, English translation) in view of ASM Handbook Online (Vol. 2, Selection and Application of Mg and Mg Alloys).

Thum & Lorenz teach a magnesium-based alloy threaded fastener containing Al, Zn, and Mn, but fail to teach a fastener containing Mg, Zn, Zr. The alloy designated ZE63A-T6 (ASM Handbook Online, Table 3) contains 5.8 wt% Zn, 0.7 wt% Zr, the balance Mg.

It would have been obvious to one of ordinary skill in the art at the time of the invention to fashion ZE63A-T6 into a screw because of its outstanding physical and mechanical properties. ZE63A-T6 has a tensile strength of 300 MPa (ASM Handbook Online, Table 3) and is lightweight compared to its more dense counterparts such as aluminum, titanium, and iron. Lightweight components are particularly advantageous in vehicles in which weight is a critical factor (e.g., aerospace) as lighter parts contribute to the reduced fuel consumption (Thum & Lorenz, First Paragraph; ASM Handbook Online, Introduction, First Paragraph).

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa T. Velasquez whose telephone number is 571-270-3587. The examiner can normally be reached on Monday-Friday 7:30 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 4116

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vanessa T Velasquez/  
Examiner, Art Unit 4116

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4116